

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): ~~A Method~~method for engineering traffic between an ingress router and an egress router of a packet network, the method comprising:

~~said traffic being scheduled~~scheduling traffic within ~~said an~~ ingress router in queues pertaining to different service classes;

~~said method further including a step of~~ determining a part of the traffic which will follow a dedicated tunnel between said ingress router and ~~said an~~ egress router;

~~characterized in that~~

~~said method includes the provisioning of~~ a tunnel queue dedicated to said part of the traffic intended to flow via said dedicated tunnel, for separately and temporarily storing said part of the traffic towards said dedicated tunnel; and

~~said method further includes a step of~~ shaping said part of the traffic towards said dedicated tunnel before ~~entering in said~~transmitting said part of the traffic in said tunnel.

2. (currently amended): ~~Method~~The method according to claim 1, wherein:

~~characterised in that~~

~~said method includes the provisioning of~~ a set of tunnel queues ~~is provisioned~~, associated to said dedicated traffic tunnel, each tunnel queue within said set pertaining to a different service class .

3. (currently amended): ~~Method~~ The method according to claim 2, wherein:

~~characterised in that~~

a separate shaper is provided to each tunnel queue of said set ~~a separate shaper is provided~~ for shaping the traffic from said each tunnel queue of said set.

4. (currently amended): ~~Method~~ The method according to claim 2, wherein:

~~characterised in that~~

said set of tunnel queues is associated to a plurality of dedicated traffic tunnels, pertaining to the same egress interface of said ingress router.

5. (currently amended): ~~Method~~ The method according to claim 1, further comprising:

~~characterised in that~~

~~said method includes a step of~~ monitoring the traffic via said dedicated tunnel,
~~a step of~~ comparing the result of said monitoring with a reserved bandwidth for said dedicated tunnel, and,

depending upon the result of said comparison, ~~a step of~~ informing a network administrator of information regarding the result of said comparing by sending a message to said network administrator.

6. (currently amended): ~~Method~~ The method according to claim 4, further comprising:

~~characterised in that~~

~~said method includes a step of~~ monitoring the traffic via said plurality of dedicated tunnels at said egress interface;

~~a step of~~ comparing the result of said monitoring with a reserved bandwidth for said plurality of dedicated tunnels; and;

depending upon the result of said ~~comparison~~ comparing, ~~a step of~~ informing a network administrator of information regarding the result of said comparing by sending a message to said network administrator.

7. (currently amended) ~~Method~~ The method according to claim 5, wherein:

~~characterised in that~~

upon receipt of a message indicating that the traffic through said dedicated tunnel, ~~respectively said plurality of dedicated tunnels,~~ exceeds a predetermined value, said network administrator increases the reserved bandwidth, whereas a new path or paths are calculated for

said dedicated tunnel, ~~respectively said plurality of dedicated tunnels~~, between said ingress router and said egress router.

8. (currently amended): ~~Method~~ The method according to Claim 1, wherein:

~~characterised in that~~

said provisioning ~~of said tunnel queue or of said set of tunnel queues~~ is dependent upon the sending, by said network administrator, of a message enabling said method.

9. (currently amended): ~~Ingress~~ An ingress router ~~(I)~~ of a packet network, ~~said ingress router being adapted to route packets within said packet network to an egress router of said packet network via at least one dedicated tunnel (LSP1, LSP2) to said egress router, said ingress router (I) including at least one plurality of queues (AF1, ..., AFn, EF, BE, CT) pertaining to different service classes, said ingress router being adapted to temporarily store incoming packets within one of these queues, on the basis of their service class and on the basis of their destination~~ comprising:

~~characterised in that~~

said ingress router ~~(I)~~ further includes at least one tunnel queue ~~(QLSP1, QLSP2)~~ dedicated and associated to said at least one dedicated tunnel ~~(LSP1, LSP2)~~, said at least one tunnel queue temporarily storing part of the incoming packets;

~~said ingress router (I) is further adapted to temporarily store part of the incoming packets within said at least one tunnel queue (QLSP1, QLSP2) within said ingress router;~~

~~whereby said ingress router further includes~~ at least one tunnel shaper₁ (SLSP1, SLSP2)
associated to said at least one dedicated tunnel (~~LSP1, LSP2~~), ~~and adapted to shape wherein the~~
tunnel shaper shapes the traffic of said at least one dedicated tunnel (~~LSP1, LSP2~~).

10. (currently amended): ~~Ingress~~ The ingress router (~~4~~) according to claim 9, further comprising:

~~characterised in that~~

~~said ingress router further includes~~ at least one set of tunnel queues, pertaining to
different service classes, and associated to said at least one dedicated tunnel.

11. (currently amended): ~~Ingress~~ The ingress router (~~4~~) according to claim 10, further comprising:

~~characterised in that~~

~~said ingress router further includes~~ at least one set of tunnel shapers associated to said at
least one dedicated tunnel.

12. (currently amended): ~~Ingress~~ The ingress router (~~4~~) according to claim 10,
wherein:

~~characterised in that~~

said at least one set of tunnel queues pertaining to different service classes; is associated to a plurality of dedicated tunnels pertaining to the same egress interface of said ingress router.

13. (canceled): ~~Ingress-The ingress router (H)~~ according to claim 9, further comprising:

~~characterised in that~~

~~said ingress router (H) includes a monitoring device (M1) adapted to monitor which~~
~~monitors~~ the traffic of said at least one dedicated tunnel ~~or of said plurality of dedicated tunnels,~~
~~to compare~~ compares said traffic with a predetermined threshold related to a reserved bandwidth for said at least one dedicated tunnel ~~or said plurality of dedicated tunnels,~~ and ~~to generate~~
generates a message to a network administrator depending on the result of said comparison.

14. (currently amended): ~~Ingress-The ingress router (H)~~ according to claim 9,
wherein:

~~characterised in that~~

said at least one tunnel queue is enabled based on a determination as to whether or not to
enable said at least one tunnel queue to receive packets intended for said at least one dedicated
tunnel, said determination made from a predetermined message received ~~said ingress router is~~
~~further adapted to receive a predetermined message from said network administrator, said~~
message related to the enabling of said at least one tunnel queue ~~or said set of tunnel queues, and~~

~~to determine therefrom whether or not to enable said at least one tunnel queue for receiving packets intended to said at least one dedicated tunnel.~~